

## **G. Todd Kellison, Ph.D.**

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### **Summary**

Marine / estuarine ecologist with a strong background in (1) fisheries research and management, (2) field research across a variety of ecosystems, (3) design and implementation of ecological experiments (e.g., to determine ecological impacts), (4) statistical analysis and modeling of ecological data, (5) project development, funding acquisition and project management, and (6) report/manuscript preparation and publication.

### **Education**

*Ph.D.*, Marine Science, 2000 - North Carolina State University  
*M.S.*, Marine Biology, 1995 - University of Charleston, SC  
*B.S.*, Biology, 1992 – University of North Carolina at Chapel Hill

### **Work Experience**

#### **2005-present: Research Fishery Biologist, National Marine Fisheries Service**

Direct and participate in applied fisheries research and monitoring in southeast Florida, the Florida Keys, the Dry Tortugas region, and in the Caribbean. Research includes historical comparisons, habitat utilization, behavioral patterns, ecosystem impacts, and factors governing community structure in coral reef and associated environments.

#### **2002-2005: Fishery Biologist, National Park Service / Biscayne National Park**

Direct and participate in: (1) development of Fishery Management Plan for Biscayne National Park (~700 km<sup>2</sup> of marine waters; in cooperation with federal and state agencies), (2) ongoing fisheries research in Park waters and beyond (Park-, University, federal- or state-sponsored), (3) fishery-dependent and fishery-independent fisheries monitoring programs, (4) sea turtle monitoring programs, (5) avian monitoring programs, (6) exotic plant monitoring and management / removal. Actively pursue funds to further develop fisheries and wildlife research in the Park and beyond.

#### **2000-2002: Visiting Assistant Professor, North Carolina State University**

Research: Fisheries ecology research in NC (flounder otolith microchemistry studies, blue crab habitat utilization and stock enhancement research), Florida (fish and invertebrate habitat utilization studies), and Bahamas (Nassau grouper spawning aggregation research; spiny lobster habitat utilization study). Responsible for organizing a series of NSF-sponsored Biocomplexity workshops to address anthropogenic influences on NC's coastal aquatic ecosystems.

Teaching: Lecturer in Oceanography (~110 students per course). Co-leader of "Design and Analysis of Ecological Experiments" seminar. Guest lecturer for "Marine Biology", "Ecology of Fishes", and "Marine Benthic Ecology" courses.

### **2000: Visiting Scientist, Kyoto University**

Performed stock enhancement research with Japanese flounder (*Paralichthys olivaceus*); established working relationships with Japanese scientists to encourage future collaborations.

### **1996-2000: Research and Teaching Assistant, North Carolina State University**

Research: Habitat utilization and stock enhancement feasibility studies with summer flounder (*Paralichthys dentatus*) (NOS/NMFS laboratory, Beaufort, NC); Habitat identification and utilization research for fish and invertebrates in the Key West National Wildlife Refuge, in cooperation with the Ocean Conservancy (SCUBA sampling); Reef fish recruitment studies to offshore reef systems in Onslow Bay, NC (Nitrox-based sampling); Gag grouper (*Mycteroperca microlepis*) recruitment study in North River estuary (near Beaufort, NC), which involved intensive field sampling using benthic and pelagic juvenile sampling gear; Nassau grouper (*Epinephelus striatus*) and spiny lobster (*Panulirus argus*) recruitment studies (Lee Stocking Island, Bahamas); Blue crab (*Callinectes sapidus*) recruitment dynamics in North Carolina estuaries, including field sampling, telemetry, mark-recapture studies, small craft operation, invertebrate sorting and species identification.

Teaching: Oceanography lecturer (~100 students per class) and laboratory instructor (~25 students per class), including lectures, laboratory preparation and supervision, and testing for class sizes of 15-25 undergraduate students; Guest lecturer for graduate and undergraduate Marine Science classes.

### **1995-1996: South Carolina Department of Natural Resources**

Employed in a reef fish population assessment program (MARMAP). Duties included age-growth and histology / fecundity studies of reef fish populations, juvenile gag grouper (*Mycteroperca microlepis*) recruitment studies, 1-5 day sampling cruises aboard the *R/V Palmetto*, extensive small craft operation, port sampling (interactions with commercial fishermen), and data proofing.

### **1994-1995: South Carolina Marine Artificial Reef Program (SCMARP)**

Volunteer scuba diver; assisted in reef design, construction and deployment, side-scan sonar studies, and underwater visual censuses of reef fish.

### **1992-1995: Teaching Assistant, College of Charleston, SC**

Laboratory Instructor for Biology 101, 102, 111, and 112. Responsible for lectures, laboratory exercises, and weekly tests. Assisted in the teaching of an upper level ecology class for two semesters.

### **1992: Technician, NCSU Forestry and Wildlife Study**

Participated in research to assess the impact of various logging methods on reptile and amphibian abundance and movement patterns, primary productivity, and soil hydrology. Intensive mark-recapture studies.

### **1991: North Carolina Division of Marine Fisheries**

Intern - participated in fish and shrimp population assessment programs; studied bycatch reduction through gear modification (Fish Excluder Devices); data entry and proofing.

### **Publications**

**Kellison, GT** and JC Taylor. *In press*. Demonstration and implications of habitat-specific chemical signatures in otoliths of juvenile summer flounder (*Paralichthys dentatus* Linnaeus) in North Carolina. *J. Fish Biol.*

- Eggleston, DB, DM Parsons, **GT Kellison**, GR Plaia and EG Johnson. *In press*. Functional response of sport divers to lobsters with application to fisheries management. *Ecological Applications*.
- Eggleston, DB, EG Johnson, **GT Kellison**, GR Plaia and C Huggett. *In press*. Pilot evaluation of early juvenile blue crab stock enhancement using a replicated BACI design. *Reviews in Fisheries Science (Proceedings of the 3rd International Conference on Sea Ranching and Stock Enhancement)*.
- Adams, AJ, RK Wolfe, MD Tringali, E Wallace and **GT Kellison**. *In press*. Rethinking the status of *Albula* spp. in the Caribbean and Western Atlantic. In: J. Ault, ed., *Biology and management of the world tarpon and bonefish fisheries*. CRC Press, 448 pp.
- Adams, AJ, C Dahlgren, **GT Kellison**, MS Kendall, JA Ley, I Nagelkerken and JE Serafy. 2006. The Juvenile Contribution Function of tropical backreef systems. *Mar. Ecol. Prog. Ser.* 318: 287-301.
- Adams, AJ, RJ Wolfe, **GT Kellison** and BC Victor. 2006. Patterns of juvenile habitat use and seasonality of settlement by permit, *Trachinotus falcatus*. *Environ. Biol. Fishes.* 75(2): 209-217.
- Dahlgren, C, **GT Kellison**, AJ Adams, B Gillanders, M Kendall, C Layman, JA Ley, I Nagelkerken, and JE Serafy. 2006. Marine nurseries and effective juvenile habitats: concepts and applications. *Mar. Ecol. Prog. Ser.* 312: 291-295.
- Layman, CA, CP Dahlgren, **GT Kellison**, AJ Adams, BM Gillanders, MS Kendall, JA Ley, I Nagelkerken, and JE Serafy. 2006. Marine nurseries and effective juvenile habitats: reply to comment. *Mar. Ecol. Prog. Ser.* 318: 307-308.
- Koprowski, JL, **GT Kellison** and SL Moneysmith. 2005. Status of red-bellied squirrels (*Sciurus aureogaster*) introduced to Elliott Key, FL. *Florida Field Naturalist* 33(4): 128-129.
- Kellison, GT** and DB Eggleston. 2004. Coupling ecology and economy: Modeling optimal release scenarios for summer flounder (*Paralichthys dentatus*) stock enhancement. *Fish. Bull.* 102: 78-93.
- Eggleston, DB, EG Johnson, **GT Kellison** and DA Nadeau. 2003. Intense removal and non-saturating functional responses by recreational divers on spiny lobster prey. *Mar. Ecol. Prog. Ser.* 257: 197-207.
- Kellison, GT**, DB Eggleston, JC Taylor, JS Burke, and JA Osborne. 2003. Pilot evaluation of summer flounder stock-enhancement potential using experimental ecology. *Mar. Ecol. Prog. Ser.* 250: 263-278.
- Kellison, GT**, DB Eggleston, JC Taylor and JS Burke. 2003. An assessment of biases associated with caging, tethering, and habitat-specific trawl sampling of summer flounder (*Paralichthys dentatus*). *Estuaries* 26(1): 64-71.
- Kellison, GT**, DB Eggleston and M Tanaka. 2002. Density-dependent predation and implications for stock enhancement with Japanese flounder (*Paralichthys olivaceus*). *J. Fish Biol.* 60: 968-980.
- Kellison, GT**, DB Eggleston and JS Burke. 2000. Comparative behavior and survival of hatchery-reared versus wild summer flounder (*Paralichthys dentatus*). *Can. J. Fish. Aquat. Sci.* 57: 1870-1877.
- Kellison, GT** and GR Sedberry. 1998. The effects of artificial reef vertical profile and hole diameter on fishes off South Carolina. *Bull. Mar. Sci.* 62 (3): 763-780.

### **In review and in preparation**

**Kellison, GT** and HM Tritt. *In review*. Description and implications of fish assemblages utilizing shallow, low-energy, sandy habitats in Biscayne National Park, FL, USA. Estuarine, Coastal and Shelf Science.

**Kellison, GT**, J Luo, J Javech, P Rand, P Johnson, and JE Serafy. *In prep*. An evaluation and comparison of techniques for estimating fish species composition, abundance and size structure in mangrove and reef habitats. Bull. Mar. Sci.

Eggleston, DB, GW Bell, EG Johnson and **GT Kellison**. *In prep*. Nurseries as integrated ecosystems: a reminder from back reef habitats in the lower Florida Keys, USA. Bull. Mar. Sci.

### **Graduate Committees**

Art Gleason (PhD program, University of Miami) - Single beam acoustic seabed classification in coral reef environments

Neil Hammerschlag (PhD program, University of Miami) - Balancing food and refuge requirements across a subtropical marine ecotone: an assessment of nearshore fish distribution, diet and predation risk

Tauna Rankin (PhD program, University of Miami) - The effects of early life history on recruitment and early juvenile survival of a coral reef fish in the Florida Keys

### **Additional Activities**

**2006-present:** Advisor, NRC post-doctoral program

**2005:** Invited participant, Spiny Lobster Southeast Data, Assessment, and Review (SEDAR) Workshop; sponsored by the South Atlantic Fishery Management Council; Marathon, FL

**2005:** Invited participant, Fisheries Management and Conservation Planning Strategy workshop, Ft. Lauderdale, FL; sponsored by the Florida Fish and Wildlife Conservation Commission and the Nature Conservancy

**2004-2005:** Organizer and participant in Backreef II workshop to assess current knowledge and identify research priorities for shallow-water, coral reef-adjacent ecosystems; sponsored by EPA, NOAA and CMRC; Lee Stocking Islands, Bahamas

**2003-present:** Participant and co-project lead for multiple projects under the Fishing, Diving and Other Uses component of the Southeast Florida Action Strategy Team, a regional planning team in support of the US Coral Reef Task Force

**2002:** Participant, “Designing Effective Learning Experiences for Students” workshop

**2001:** Organizer and participant, Biocomplexity workshops on anthropogenic impacts and feedbacks on an NC coastal system

**2001:** Presenter, Wake County, NC “Science Go Round 2001”

**2000-2002:** Science judge and volunteer, National Ocean Science Bowl

**1996-2002:** Volunteer, Scientist in the Classroom (Research Triangle Science and Mathematics Partnership). Make presentations and discuss relevant issues in marine biology and ecology with students at local schools (K-12).

**1996-2000:** Tutor, Academic Support Program for Student Athletes, NCSU

### **Relevant Skills**

Scuba certified (air and Nitrox); NOAA and Department of Interior (DOI) certified research diver; US Coast Guard and DOI certified small craft operator; statistical software (SAS, SPSS, Systat); graphics software, programming (Visual Basic for Excel, Fortran); GIS (Arcview).

### **Honors and Awards**

- 2000** – National Seagrant Fellowship - Fisheries stock enhancement research, Kyoto University, Japan
- 1999** – Alexander Achievement Award in recognition of outstanding scholarship and academic achievement
- 1999** – Ryan Kelly Memorial Scholarship from the International Women's Fishing Association
- 1998** – Graduate Student Certificate for Outstanding Teaching
- 1998** – Inducted into Phi Kappa Phi National Honor Society (NCSU)
- 1995** – University of Charleston Marine Biology Graduate Student Award
- 1994** – Joanna Deep-water Fellowship, University of Charleston

### **Presentations**

- 2007** – American Academy of Underwater Sciences symposium, Miami, FL
- 2007** – National Park Service Discovery Series lecture, Miami, FL
- 2006** – International Symposium on Mangroves as Fish Habitat, Miami, FL
- 2005** – Invited speaker, NC State University
- 2005** – Backreef II Workshop, Lee Stocking Island, Bahamas
- 2004** – American Fisheries Society, Madison, WI
- 2002** – Invited speaker, Maryland Center of Marine Biotechnology Stock Enhancement/Fisheries Management International Forum
- 2001** – Invited speaker, Fort Johnson Seminar Series, SCDNR/University of Charleston, SC
- 2000** – Fisheries Seminar, Department of Biological Sciences, UNC-Wilmington
- 2000** – Departmental Seminar, Department of Marine, Earth and Atmospheric Sciences, NCSU
- 2000** – Invited speaker, University of Kyoto Maizuru Laboratory, Japan
- 2000** – 29<sup>th</sup> Annual Marine Benthic Ecology Meeting, Wilmington, NC
- 1999** – Fourth International Flatfish Symposium, Atlantic Beach, NC
- 1999** – American Fisheries Society Annual National Meeting, Charlotte, NC
- 1998** – NMFS Flatfish Biology Conference, Mystic, CT
- 1996** – American Fisheries Society Southeast Regional Meeting, Mobile, AL

### **Reviewer (past or current)**

Animal Behavior, Aquaculture, Bulletin of Marine Science, Canadian Journal of Fisheries and Aquatic Sciences, Caribbean Journal of Science, Endangered Species Research, Environmental Management, Fisheries Bulletin, Fisheries Science, FWF (Austrian Fund for the Promotion of Scientific Research), Journal of Experimental Marine Biology and Ecology, Journal of Fish Biology, Journal of Sea Research, Marine Biology, Marine Ecology progress Series, National Fish and Wildlife Foundation, North American Journal of Fisheries Management, NOAA National Undersea Research Program, NOAA Coastal Ocean Program, Strategic Environmental Research and Development Program (Department of Defense), Wetlands

### **Memberships and Affiliations**

**1999-present:** Member, American Fisheries Society

**2002-2005:** Member, Sigma Xi Scientific Research Society

**1998-2005:** Member, Phi Kappa Phi National Honor Society

### **References**

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